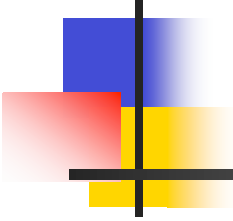


Economic and Technology Advancement Advisory Committee (ETAAC): Presentation of Final Report to CARB



Dr. Alan Lloyd - ETAAC Chair;
President of the International Council on Clean
Transportation

Dr. Bob Epstein - ETAAC Vice-Chair;
Co-Founder of Environmental Entrepreneurs

February 28, 2008

Overview of Presentation

- ETAAC Purpose & Public Process
- Report Overview & Major Themes
- Examples of Recommendations



Source: International Council on Clean Transportation



ETAAC Purpose

- ETAAC was formed by ARB under AB32
 - Advise ARB on promising GHG emission-control technologies; and policies to advance these technologies
 - Additional responsibilities listed in AB32
 - Also asked by ARB to comment on aspects of Market Advisory Committee report

ETAAC Public Process

- 20 Technology experts appointed by ARB one year ago
 - transportation, energy, industry, agriculture, forestry, business, finance, academia, government
- Committee held nine public meetings across California
 - Bay Area, Central Valley, Sacramento, Southern California (all meetings webcast)
 - Toured R&D centers across the state
 - Received public comments in person and in writing



Source: Stanford University Global Climate and Energy Project

ETAAC Public Process (continued)

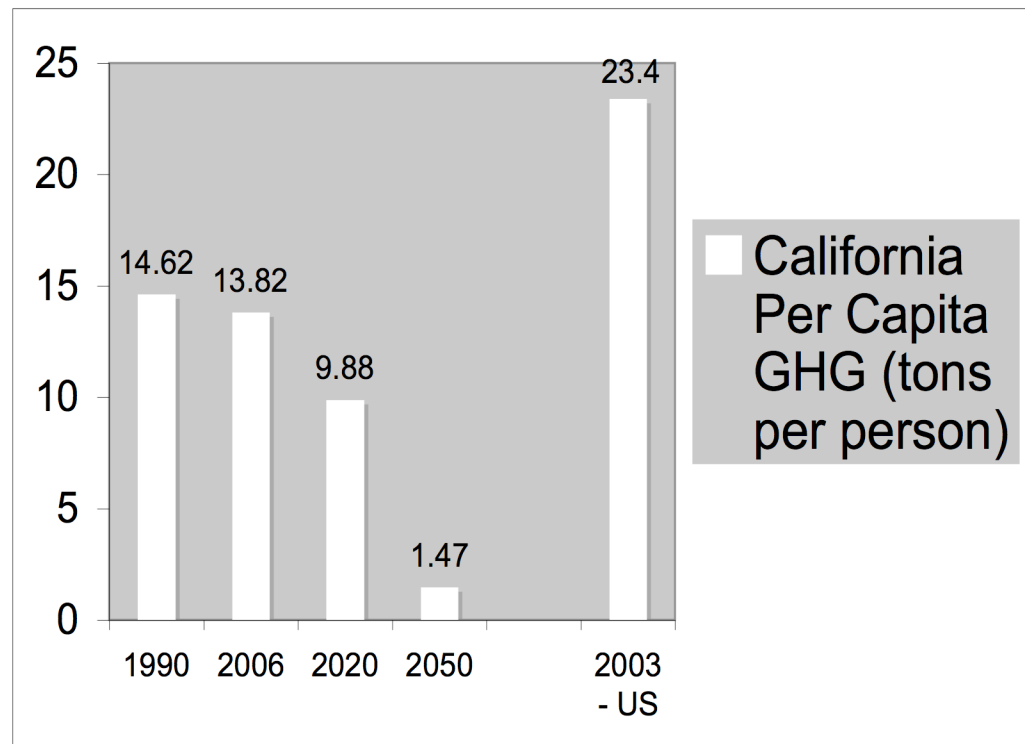
- Public review of report:
 - November 15, 2007 draft report
 - December 21, 2007 draft report
- Final report adopted at Feb. 11, 2008 public meeting



Source: Friends of the Urban Forest

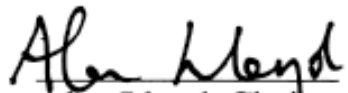
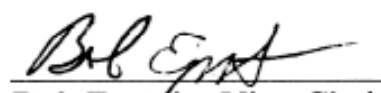
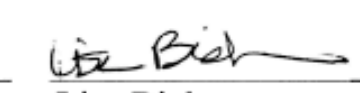

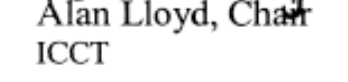
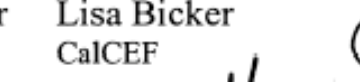
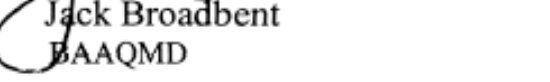
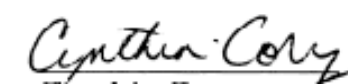
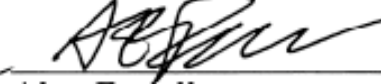
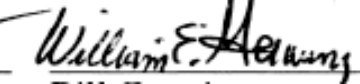

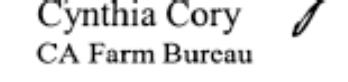
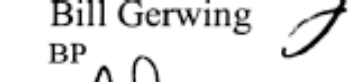
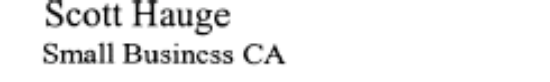
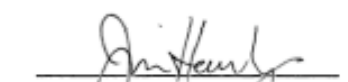
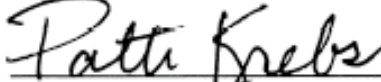

Overall Vision

- Help meet GHG reduction goals for 2020 and 2050
- Environmental & economic benefits
- Repeat California's environmental successes



Overall Vision ->

55 recommendations across sectors

 Alan Lloyd, Chair ICCT	 Bob Epstein, Vice-Chair E2	 Lisa Bicker CalCEF	 Jack Broadbent BAAQMD
 Cynthia Cory CA Farm Bureau	 Alex Farrell UC Berkeley	 Bill Gerwing BP	 Scott Hauge Small Business CA
 Jim Hawley TechNet	 Patti Krebs IEA	 Jason Mark Energy Foundation	 Joan Ogden UC Davis
 Amisha Patel CA Chamber	 Dorothy Rothrock CMTA	 Jan Smatny-Jones IEPA	 Andrea Tuttle Tuttle and Associates
 Fong Wan PG&E	 Jonathan Weisgall CEERT	 John Weyant Stanford	 Rick Zalesky Chevron



Five Major Strategies

- Accelerate GHG Emission Reductions
- Balance a Portfolio of Economic and Technology Policies
- Create Innovative Public Funding to Complement Private Investment
- Foster International and Domestic Partnerships
- Leadership Across State Agencies



Five Major Opportunities

- Accelerate Efficiency Measures
- Remove Carbon from Energy Sources
- Rethink Transportation to Lower Demand and Carbon Emissions
- Reduce GHG Emissions from Industry, Agriculture, Forestry and Water
- Capture Cleantech Employment, Economic, Health, and Environmental Justice Co-Benefits

Cross-cutting Innovative Ideas



Source: AC Transit

- California Carbon Trust example
 - If allowances are auctioned, or carbon fees assessed, revenues should be invested in GHG reductions & technology development

Low and Zero Emission Transportation

- Continue leadership on light-duty vehicles & expand to heavy duty
- Incentives such as feebates; fleet purchase standards/incentives



Source: US DOE

Shifting Transportation Demand



Source: AC Transit

- Link funding for infrastructure planning & development to Smart Growth
- More accurate pricing for driving
 - Pay-as-You-Go Insurance
 - Congestion Charges
 - Fuel taxes indexed to GHG & vehicle miles
- Did not assess specific technologies in depth

Energy Efficiency



Source: LED Power

- Utility programs and customer efforts
- Development & deployment of Light Emitting Diodes - general lighting
- Water conservation & reuse

Low Carbon Energy Action Plan



Source: Solel

- Energy Efficiency
- Remove barriers to development & deployment of increased renewable energy
- Zero and low carbon distributed generation
- Potential to remove carbon from fossil & biomass fuels

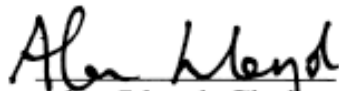
Waste Reduction, Recycling, Compost

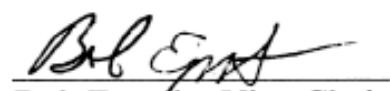


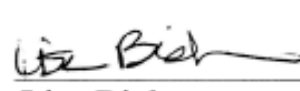
Source: Good Green Graces

- Strategy to reduce GHG from waste disposal, and decreased materials extraction & processing, such as
 - Use compost for agriculture & other uses, instead of landfilling these organics
 - Better recycling service at commercial & multi-unit residential buildings

Thank you to ETAAC


Alan Lloyd, Chair
ICCT

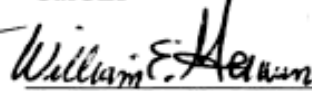

Bob Epstein, Vice-Chair
E2

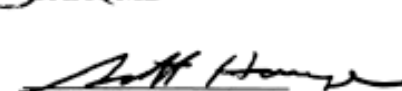

Lisa Bicker
CalCEF

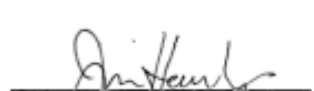

Jack Broadbent
BAAQMD

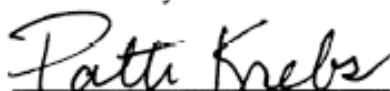

Cynthia Cory
CA Farm Bureau


Alex Farrell
UC Berkeley



Bill Gerwing
BP

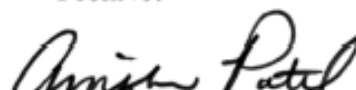

Scott Hauge
Small Business CA



Jim Hawley
TechNet



Patti Krebs
IEA

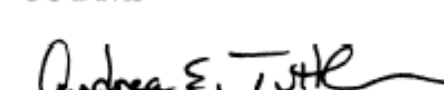

Jason Mark
Energy Foundation

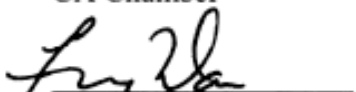

Joan Ogden
UC Davis



Amisha Patel
CA Chamber



Dorothy Rothrock
CMTA


Jan Smutny-Jones
IEPA


Andrea Tuttle
Tuttle and Associates


Fong Wan
PG&E


Jonathan Weisgall
CEERT


John Weyant
Stanford


Rick Zalesky
Chevron